

**Amendment**

**In the Claims**

1-9. (cancelled)

10. (currently amended) A method for making a polymer in a biological system comprising

providing one or more substrates selected from the group consisting of 3-hydroxybutyrate, 3-hydroxypropionate, 3-hydroxyvalerate, 4-hydroxybutyrate, 4-hydroxyvalerate, 5-hydroxyvalerate, 3-hydroxyhexanoate, 4-hydroxyhexanoate, and 6-hydroxyhexanoate,

wherein the biological system is selected from the group consisting of bacteria, yeast, fungi, and plants; wherein the biological system expresses enzymes selected from the group consisting of polyhydroxyalkanoate synthase, acyl-CoA transferase, hydroxyacyl CoA transferase, and hydroxyacyl CoA synthetase such that a polymer comprising the one or more substrates accumulates, wherein the polymer is selected from the group consisting of poly (3-hydroxypropionate), poly (3-hydroxypropionate-co-5-hydroxyvalerate), poly (3-hydroxybutyrate-co-4-hydroxyvalerate), poly (4-hydroxyvalerate), and poly (5-hydroxyvalerate).

11. (original) The method of claim 10 wherein the organisms express one or more heterologous genes encoding the enzymes.

12. (cancelled)

**AMENDMENT AND RESPONSE TO OFFICE ACTION**

13. (previously presented) The method of claim 10, wherein the biological system is a bacterium.

14. (previously presented) The method of claim 10, wherein the biological system is a plant.

15. (previously presented) The method of claim 10, wherein the polymer is poly (3-hydroxypropionate).

16. (previously presented) The method of claim 10, wherein the polymer is poly (3-hydroxypropionate-co-5-hydroxyvalerate).

17. (previously presented) The method of claim 10, wherein the polymer is poly (3-hydroxybutyrate-co-4-hydroxyvalerate).

18. (previously presented) The method of claim 10, wherein the polymer is poly (4-hydroxyvalerate).

19. (previously presented) The method of claim 10, wherein the polymer is poly (5-hydroxyvalerate).